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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,142	02/07/2001	Yoshimoto Ishikawa	JP919990298US1	8589

7590 08/05/2003

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EXAMINER

TON, ANABEL

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,142

Applicant(s)

ISHIKAWA ET AL.

Examiner

Anabel M Ton

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8 and 16-19 is/are allowed.
- 6) ☒ Claim(s) 1,5 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1,5,9-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,5,9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Bierhuizen et al (6,505,939).
3. Bierhuizen et al discloses a illuminating-light controller comprising: a micro mirror type spatial light modulator for projecting light, emitted from a light source, on a corresponding area by tilting a reflecting surface; a first light source for emitting a first light which is projected on said corresponding area by said reflecting surface of said spatial light modulator being tilted at a first angle; a second light source for emitting a second light which is projected on said corresponding area by said reflecting surface of said spatial light modulator being tilted at a second angle; and a control section for controlling said first light emitted from said first light source and said second light emitted from said second light source (figs 3-5 and 7);

- An illuminating-light controller comprising: a light modulator for projecting light on a corresponding area by tilting a reflecting surface a first light source for emitting a first light which is projected on said corresponding area by said reflecting surface of said spatial light modulator being tilted at a first angle; a second light source for emitting a second light which is projected on said corresponding area by said reflecting surface of said spatial light modulator being tilted at a second angle; and a control section for controlling said first light emitted from said first light source and said second light emitted from said second light source (figs 3-5 and 7, col 2, lines 20-44)
- An illuminating-light controller comprising: a light modulator for projecting light on a corresponding area by tilting a reflecting surface; a plurality of light sources for emitting light which are projected on said corresponding area by said reflecting surface of said light modulator; said reflecting surface is tiltable to a plurality of angles, each angle corresponding to the projection of light from one of said plurality of light sources; and a control section for controlling said plurality of light sources. (figs 3-5 and 7, col 2, lines 20-44)
- With regards to method claim 13, the structural limitations of claim 13 are anticipated by Bierhuizen therefore the abovementioned rejection applies.

Allowable Subject Matter

4. Claims 2-4 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 6-8 and 16-19 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art cited does not recite a combination of the following:

- The control section controls the first and second light sources so that they are alternately driven to emit light;
- A projector comprising: a *first light source for emitting light in pulse form*; a *second light source for emitting light in pulse form*, said first light source and said second light source being switched alternately; a spatial light modulator equipped with a *micro mirror tiltable at a first angle and a second angle*, light modulation being performed by tilting said micro mirror; a projection lens on which the light reflected by said micro mirror of said spatial light modulator is incident; and a control section for controlling said first light source so that the light emitted from said first light source is modulated and directed to said projection lens with said micro mirror tilted at said first angle, and for controlling said second light source so that the light emitted from said second light source is modulated and directed to said projection lens for each of said three-color fields.
- A method for directing light with three primary colors to a projection lens by employing a spatial light modulator which has a *first state in which a micro mirror is tilted at a first angle and a second state in which said micro mirror is tilted at a second angle*, said method comprising the steps of: constructing three color fields for each frame forming an image by said light with three primary colors; and directing light, modulated by employing *said first state of said spatial light*

modulator, and light, modulated by employing said second state of said spatial light modulator, to said projection lens for each of said three-color fields.

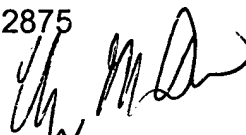
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anabel M Ton whose telephone number is (703) 305-1084. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AMT
July 28, 2003

Anabel M Ton
Examiner
Art Unit 2875


THOMAS M. SEMBER
PRIMARY EXAMINER

THOMAS M. SEMBER
PRIMARY EXAMINER